

Response
Application No. 09/809,106
Attorney Docket No. 010283

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application:

Listing of Claims:

Claim 1 (Cancelled).

Claim 2 (Currently Amended): An information device ~~as set forth in claim 1~~ having means for supplying power to a plurality of its components including an OS and driver, and a device driver, the information device characterized by comprising:

access monitoring means for monitoring IO packets from a predetermined single one or a number of said components, and for detecting peak-power generating condition and peak-power terminating condition for the components; and

power-mode changing means for switching mode of power, to the predetermined single one or number of said components, from a normal-power mode to a power-saving mode according to detected information from said access monitoring means on said peak-power generating condition, and for switching the power mode from said power-saving mode to said

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normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition,

wherein said access monitoring means monitors said IO packets between said OS and driver, and said device driver,

wherein said predetermined single one or a number of said components is an information storage device, said access monitoring means is configured for:

detecting issuance of a read/write request IO packet indicating occurrence of spin-up in the information storage device as the peak-power generating condition; and

detecting issuance of a read/write completion IO packet as the peak-power terminating condition.

Claim 3 (Currently Amended): An information device ~~as set forth in claim 1~~ having means for supplying power to a plurality of its components including an OS and driver, and a device driver, the information device characterized by comprising:

access monitoring means for monitoring IO packets from a predetermined single one or a number of said components, and for detecting peak-power generating condition and peak-power terminating condition for the components; and

power-mode changing means for switching mode of power, to the predetermined single one or number of said components, from a normal-power mode to a power-saving mode according to detected information from said access monitoring means on said peak-power

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generating condition, and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition,

wherein said access monitoring means monitors said IO packets between said OS and driver, and said device driver,

wherein said predetermined single one or a number of said components is an information storage device, and other of said components are a processor and a liquid-crystal panel having a back light, said power-mode changing means is configured for:

switching said processor and said liquid crystal panel from the normal-power mode to the power-saving mode, according to detection, by said access monitoring means, of the peak-power generating condition in said information storage device; and

switching said processor and said liquid crystal panel from the power-saving mode to the normal-power mode according to detection, by said access monitoring means, of the peak-power terminating condition.

Claims 4 and 5 (Cancelled).

Claim 6 (Currently Amended): A power-saving-mode switching method ~~as set forth in claim 5~~, for an information device having a plurality of components including an information

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storage device, ~~and~~ a processor, an OS and driver, and a device driver, the power-saving-mode switching method characterized by ~~further~~ including the steps of:

monitoring IO packets from a predetermined single one or a number of said components;
detecting peak-power generating condition and peak-power terminating condition for the
predetermined single one or number of said components according to the IO packets;

switching mode of power to other of said components from a normal-power mode to a
power-saving mode according to detection of the peak-power generating condition;

switching the power mode from the power-saving mode to the normal-power mode
according to subsequent detection of peak-power terminating condition,

detecting issuance of a read/write request IO packet indicating occurrence of spin-up in said information storage device as the peak-power generating condition, and switching said processor from the normal-power mode to the power-saving mode; and

detecting subsequent issuance of a read/write completion IO packet as the peak-power terminating condition, and switching said processor from the power-saving mode to the normal-power mode,

wherein said monitoring step monitors IO packets between said OS and driver, and said device driver.

Claims 7 and 8 (Cancelled).

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Claim 9 (Currently Amended): A recording medium on which is stored a power-saving-mode switching program ~~as set forth in claim 8~~, for an information device having a plurality of components including an information storage device, ~~and~~ a processor, an OS and driver, and a device driver, the power-saving-mode switching program stored on the recording medium characterized by ~~further~~ including:

a step of monitoring IO packets from a predetermined single one or a number of said components;

a step of detecting peak-power generating condition and peak-power terminating condition for the predetermined single one or number of said components according to the IO packets;

a step of switching mode of power to other of said components from a normal-power mode to a power-saving mode according to detection of the peak-power generating condition;

a step of switching the power mode from the power-saving mode to the normal-power mode according to subsequent detection of peak-power terminating condition;

a step of detecting issuance of a read/write request IO packet indicating occurrence of spin-up in said information storage device as the peak-power generating condition, and switching said processor from the normal-power mode to the power-saving mode; and

a step of detecting subsequent issuance of a read/write completion IO packet as the peak-power terminating condition, and switching said processor from the power-saving mode to the normal-power mode,

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wherein said monitoring step monitors IO packets between said OS and driver, and said device driver.

Claim 10 (Cancelled).

Claim 11 (Currently Amended): An information device ~~as set forth in claim 10~~ having means for supplying power to a plurality of its components, the information device characterized by comprising:

access monitoring means for monitoring information on access to components which are monitored among said plurality of components, and for detecting peak-power generating condition and peak-power terminating condition for the monitored components; and

power-mode changing means for switching mode of power, to components which are not monitored among said plurality of components, from a normal-power mode to a power-saving mode according to detected information from said access monitoring means on said peak-power generating condition, and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition,

wherein said access monitoring means monitors IO packets between an OS and driver, and a device driver,

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wherein at least one of said monitored components is an information storage device, said access monitoring means is configured for:

detecting issuance of read/write status indicating occurrence of spin-up in the information storage device as the peak-power generating condition; and
detecting issuance of read/write end status as the peak-power terminating condition.

Claim 12 (Currently Amended): An information device ~~as set forth in claim 10~~ having means for supplying power to a plurality of its components, the information device characterized by comprising:

access monitoring means for monitoring information on access to components which are monitored among said plurality of components, and for detecting peak-power generating condition and peak-power terminating condition for the monitored components; and

power-mode changing means for switching mode of power, to ~~the~~ components which are not monitored among said plurality of components, from a normal-power mode to a power-saving mode according to detected information from said access monitoring means on said peak-power generating condition, and for switching the power mode from said power-saving mode to said normal-power mode according to detected information from said access monitoring means on said peak-power terminating condition,

wherein said access monitoring means monitors IO packets between an OS and driver, and a device driver,

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wherein at least one of said monitored components is an information storage device, and the other components, which are not monitored, are a processor and a liquid-crystal panel having a back light, said power-mode changing means is configured for:

switching said processor and said liquid crystal panel from the normal-power mode to the power-saving mode, according to detection, by said access monitoring means, of the peak-power generating condition in said information storage device; and

switching said processor and said liquid crystal panel from the power-saving mode to the normal-power mode according to detection, by said access monitoring means, of the peak-power terminating condition.

Claims 13 and 14 (Cancelled).

Claim 15 (Currently Amended): A power-saving-mode switching method ~~as set forth in claim 14~~, for an information device having a plurality of components including an information storage device and a processor, the power-saving-mode switching method characterized by ~~further~~ including the steps of:

monitoring information on access to components which are monitored among said plurality of components,

detecting peak-power generating condition and peak-power terminating condition for the monitored components according to the access information;

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switching mode of power to the other components which are not monitored among said plurality of components from a normal-power mode to a power-saving mode according to detection of the peak-power generating condition;

switching the power mode from the power-saving mode to the normal-power mode according to subsequent detection of peak-power terminating condition,

detecting issuance of read/write status indicating occurrence of spin-up in said information storage device as the peak-power generating condition, and switching said processor from the normal-power mode to the power-saving mode; and

detecting subsequent issuance of read/write end status as the peak-power terminating condition, and switching said processor from the power-saving mode to the normal-power mode,

wherein monitoring information step monitors IO packets between an OS and driver, and a device driver.

Claim 16 (Currently Amended): An information device ~~as set forth in claim 14~~ having a plurality of components, the power-saving-mode switching method characterized by including the steps of:

monitoring information on access to components which are monitored among said plurality of components,

detecting peak-power generating condition and peak-power terminating condition for the monitored components according to the access information;

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switching mode of power to the other components which are not monitored among said plurality of components from a normal-power mode to a power-saving mode according to detection of the peak-power generating condition; and

switching the power mode from the power-saving mode to the normal-power mode according to subsequent detection of peak-power terminating condition,

wherein monitoring information step monitors IO packets between an OS and driver, and a device driver,

wherein said at least one said monitored components is an information storage device, and the other components, which are not monitored, are a processor and a liquid-crystal panel having a back light, characterized by further including the steps of:

switching said processor and said liquid-crystal panel from the normal-power mode to the power-saving mode, according to detection of the peak-power generating condition in said information storage device; and

switching said processor and said liquid crystal panel from the power-saving mode to the normal-power mode according to subsequent detection of the peak-power terminating condition.

Claim 17 (Cancelled).